

## **OLYMPIAQUIZ: board game-based learning object for teaching the history of Olympic Athletics**

### **Denise Dandara Gomes de Carvalho Severo**

Computer technical course student, Federal Institute of Education, Science and Technology of Rondonia – Campus Porto Velho Calama  
Porto Velho, Rondonia, Brazil.  
Email: denisedandara4@gmail.com

### **Iara Rodrigues Abreu**

Computer technical course student, Federal Institute of Education, Science and Technology of Rondonia – Campus Porto Velho Calama  
Porto Velho, Rondonia, Brazil.  
Email: iara\_abreu@hotmail.com

### **Welliton da Silva Belém**

Control and automation engineering student, Federal Institute of Education, Science and Technology of Rondonia – Campus Porto Velho Calama  
Porto Velho, Rondonia, Brazil.  
Email: wbelem.wb@gmail.com

### **André Luiz Barbosa Marinho**

Control and automation engineering student, Federal Institute of Education, Science and Technology of Rondonia – Campus Porto Velho Calama  
Porto Velho, Rondonia, Brazil.  
Email: albmcontato@gmail.com

### **Mateus Silva Gonçalves**

Control and automation engineering student, Federal Institute of Education, Science and Technology of Rondonia – Campus Porto Velho Calama  
Porto Velho, Rondonia, Brazil.  
Email: mateusgoncalves020@gmail.com

### **Diana Ketlem Paula do Nascimento**

English Professor, Federal Institute of Education, Science and Technology of Rondonia – Campus Guajara-mirim  
Guajara-mirim, Rondonia, Brazil.  
Email: diana.nascimento@ifro.edu.br

**Daniela Tissuya Silva Toda**

Computer Science Professor, Federal Institute of Education, Science and Technology of Rondonia –  
Campus Porto Velho Calama  
Porto Velho, Rondonia, Brazil.

ORCID: <https://orcid.org/0000-0003-3175-0966>

Email: [daniela.toda@ifro.edu.br](mailto:daniela.toda@ifro.edu.br)

**Kaio Alexandre da Silva (Corresponding author)**

Computer Science Professor, Federal Institute of Education, Science and Technology of Rondonia –  
Campus Porto Velho Calama  
Porto Velho, Rondonia, Brazil.

ORCID: <https://orcid.org/0000-0003-4316-012X>

Email: [kaio.silva@ifro.edu.br](mailto:kaio.silva@ifro.edu.br)

**Abstract**

*The present work aimed to insert strategic tools with the use of board games in order to assist and facilitate learning about the history of Olympic games, highlighting the importance of working the Olympic context in the disciplines of Physical Education and History. Even with the advance of technology, teachers still find it difficult to teach their students in the classroom, because distractions and lack of interest are commonplace in the school environment. Thus, a systematic review of the literature was conducted from journals and academic articles, aiming at a deeper study on the theme addressed. With this, OlympiaQuiz was created, a board game focused on teaching the Olympic Games, exploring the social and historical context of the time, to encourage learning through games.*

**Keywords:** Educational Games; Board Games; History of the Olympics; Learning through Games;

**1. Introduction**

According to MATTHIESEN et. al. (2012), the history of sport - specifically athletics - is one of the essential contents to be taught in Physical Education classes. In addition, in the context of the discipline of History, the inclusion of issues related to sports may arouse greater interest in students in acquiring knowledge, showing that sporting events are also related to political and historical processes (ARAÚJO, 2021).

The Olympic Games of Antiquity, for example, differ from the Olympic Games of the Modern Era in terms of symbols and goals. The story tells that the Olympic Games took place at two different times, that of the Ancient Era (776 BC to the 4th century AD) and that of modernity (from 1896 onwards). According to HINEBAUGH (2009), the Games have been present since the beginning of civilization. In Ancient Greece, due to religious festivals, sporting competitions are held in shrines and in the vicinity of temples, until in 776 BC. C. the Olympic Games were reorganized, bringing a milestone to history, as it became a reference for the Greeks to measure time (SARIAN, et. al., 1997).

In 1896, the Modern Olympics grew with their own rituals in the ideal of uniting youth from all over the world and preaching peace, being since then a unique event in the history of world sport. At the first edition of the Olympic Games in Athens, the winning athletes were awarded silver medals and laurel branches. With that, throughout the history of the Olympics, the traditions underwent several modifications, until in 1904 the awarding of gold, silver and bronze medals appeared. Such transformations followed the history of humanity, exemplifying how the trajectory of sport is intertwined with political and social changes in the world. Thus, it is possible to analyze the world scenario from the Olympics, mainly in the 1936 edition, which was based in Berlin, in a chaotic scenario preliminary to the second world war in which Germany tries to use the Olympic Games as a propaganda resource for the Nazi regime. However, the Olympics that year had a significant number of Jewish and black medalists, making it an important moment in history. This event demonstrates that the Olympics have the power to represent the general context in which the world is. Thus, it is clear that the Olympic Games are of paramount importance to the world context.

ANDRIOLLI (2017) stated that the cultural-historical work of the Olympic sports has the possibility of dialoguing with Physical Education, which is a discipline that addresses the body practices of movement body culture, and its function is to educate to understand and transform the contextual reality that involves human relationships. However, even though Physical Education at School works with several contents focused on themes valued in people's daily lives, the curricular component still has great difficulty in enabling teaching-learning circumstances (KRUG, 2019). Thus, SILVA (2009) states that one of the most apparent difficulties in the teaching process is the students' ability to concentrate and focus and, even though the Physical Education subject is considered quite attractive, it also goes through this adversity.

Classroom activities require full concentration and educational games are shown as efficient resources in developing this competence, as they motivate access to knowledge in a more pleasant way (SILVA, 2009). According to TAROUCO et. al. (2004), games are efficient instructional tools, as they entertain while motivating, facilitate learning and increase the ability to retain what was taught, exercising the player's mental and intellectual functions. In this sense, educational games are defined as all applications that can be used for some educational purpose or that have a pedagogical basis. Furthermore, the game stands out from the scope of bodily practices, as it manifests itself as a fundamental dimension of human action. In this way, it presents itself as an activity that removes the human being from the rigid dynamics of everyday life, as one of the tasks of the game is to provide the power of subjects to create their own realities (FURTADO et. al., 2020).

Gamification, for example, aims to make its users feel attracted to doing a task that in a normal context they would not be so interested in performing (DOMINGUES, 2018). In other words, what is intended is that its users feel motivated to perform an activity without major difficulties, something that board games usually do very well. In this way, it is possible to provide the student with a means of motivation and engagement similar to that found in players interacting with a game, by inserting pedagogical activities along with game elements. In this way, the use of various elements of games (mechanics, strategies, thoughts) outside the context of games refers to gamification (WERBACH and HUNTER, 2012). Furthermore, the gamification process of activities in the classroom can generate an emotional and social impact on students, as reward systems and competitive mechanisms will be used (ESCOBAR, 2021).

Thus, although the concept of game as a free activity is still considered, its idea is developed in the sense

of considering games as a corporal practice that can be included in the Physical Education curriculum in Basic Education, as well as fights, sport, gymnastics and dances. In this sense, it is necessary to analyze the pedagogical possibilities of using board games in Physical Education classes at school. (FURTADO et al., 2020). Furthermore, although digital games are predominant, non-digital games such as card and board games can also be used for instructional purposes, as they have an interaction mode (WANGENHEIM et al, 2019).

According to archaeological evidence, board games are believed to have originated in Egypt more than 2,600 years BC. Currently, board games can be played by one or more people, in a figurative space where the pieces are moved, placed, or withdrawn, obeying the established rules. (TESSEROLI et al, 2016). With the diversity of technological resources, board games were restructured, organizing them according to age differences and gender differences, making the games more sophisticated. In addition, such games are classified as positive because they have a pedagogical foundation (FERREIRA, 2008).

Board games, which are characterized by dispute, are played by one or more people, on boards of any material, where pieces are moved. The main components of board games are the players, the board, the rules and the will to play (ANDRIOLLI, 2017). Board games, when well oriented and performed correctly, have several benefits, but in practice they are little used. The insertion and methodological didactic referral for board games in the classroom has as its main focus the development of concentration and remembering the importance of discussing the origin of the games and their rules (SILVA, 2009).

Therefore, board games are a didactic-pedagogical resource that can be used in the classroom, where, in addition to offering many learning possibilities, they also provide experiences that help to improve cognitive skills and even emotional processes (RAMOS et al., 2016). TEZANI (2006) says that the game stimulates growth and development, muscle coordination, intellectual faculties, individual initiative, favoring the advent and progress of the word. In this way, it helps to observe and get to know people and things in the environment in which one lives, in addition to helping to develop intelligence, memory, strategy, self-confidence, affective, social and psychomotor relationships, all in a fun, interesting and pleasurable way.

Thus, as mentioned by CARVALHO (2013), most schools do not have as many didactic table and board games available to use in Physical Education classes, being found more easily when they are from other areas of knowledge. Faced with these difficulties, comes the need to make games that are easy to be put into practice in the classroom, without much printing costs or adversities.

Thus, this work aims to present an analysis of the use of board games in order to identify the historical facts of the Olympics, exploring aspects of educational games, along with learning through games. This article is divided into sections: Methodology, which deals with the work construction process; Result and Discussion, which presents the board game "OlympiaQuiz", developed with the aim of seeking greater inclusion of Olympic athletics in the classroom and better learning for students about the history of the Olympics through an educational game; Final Considerations, which presents the perspectives obtained through the development of this work.

## **2. Methodology**

In order to seek a basis for a deeper understanding of the importance of using educational games in learning, with an emphasis on the history of the Olympic Games, a systematic literature review was carried out with magazines dealing with the use of games in learning and the importance of the Olympics. Then, in order to achieve greater success, several keywords were applied such as board games, educational games, learning through games and the history of the Olympics. As search criteria, articles until 2021 were considered, all written in Portuguese and with an abstract that agreed with the research objective, so that it would be possible to organize them in a table. To provide a segment for the research, the result of the mapping was used in the argumentation and foundation for the construction of a board game aimed at teaching the main concepts around athletics in the Olympics.

After completing the process of collecting references, the question construction stage began, based on historical events around the entire trajectory of the Olympic Games, from the first Olympic competition of the Modern Era (Athens, 1896) until its realization in Brazil, in 2016. Seventy-five questions were validated, twenty-seven open-ended and forty-eight of multiple choice, with the objective of expanding the student's knowledge about the evolution of the sports modalities of the Olympics, both technically and historically. We sought to focus the content of the questions for a perspective oriented to the historical, social and political context, so that, during the game, a connection between sports and the transformations that occurred in the history of the world during the period of existence of the Olympic Games. These aspects involve not only learning about the history of the Olympics, but also the social changes that have taken place, marked by the new sports introduced and by the inclusion of athletes who previously did not have their place in the Olympic Games. For greater depth, one hundred outstanding athletes were selected for the history of the Olympics, either for important victories for their country or for highly representative participation, in racial, cultural and gender spheres. The survey of selected athletes was divided according to the existing continents, with the American continent considered as South America, North and Central America, due to cultural differences, thus, seven categories of continents in total.

At the end, with the purpose of highlighting the importance of board games in learning and the history of athletics in the Olympics, the data collected, and the elaborated questions were applied in the elaboration and construction of an educational game. It is a low-cost board game, easy to print and use, based on the bibliography referring to athletics and its Olympic history, so that it can be worked on in Physical Education and History classes in a quick and practical way. The game dynamics is developed with the assessment of the student's knowledge about athletics and its history in the Olympics, through pre-established questions and answers.

## **5. Results and Discussion**

Aiming at greater application of the History of the Olympic Games in the classroom and an expansion of the possibilities of games worked on in the Physical Education discipline, a question-and-answer board game was created. The game was named OlympiaQuiz, referring to its objective of testing students' knowledge of athletics in the context of the Olympic Games through a Quiz model, so that participants can acquire notions of the functioning of the Olympics and relate this information with world history and the

importance of studying the sport, specifically athletics.

The game is carried out by drawing data and solving the questions. With the proposal to be a quick game, each round must have a minimum of three participants and a maximum of five, with its descending order decided by the drawing of the dice. The die is responsible for deciding the game order at the beginning of the game and the number of squares that the player must walk when hitting a question. The data is made available through QR codes present on the board, a detail that can be seen in Figure 1, with the objective of directing the student to the Play Store to download the application or to a web page that makes it possible to draw the data without difficulties.

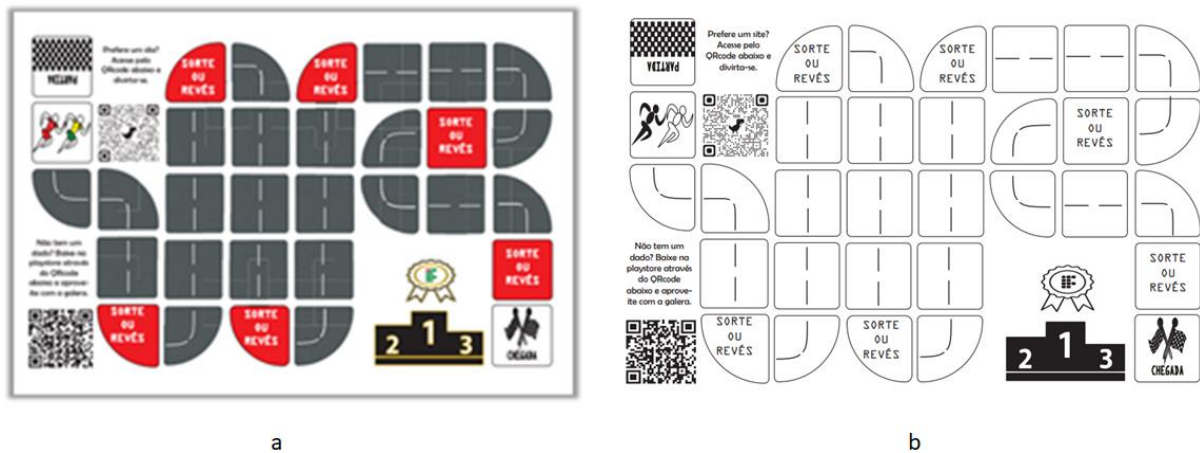


Figure 1. Image of the OlympiaQuiz board.

The board measures 297 mm x 210 mm and must be printed on an A4 sheet, with two versions: one in color, as shown in figure 1-a, and one in black and white, as shown in figure 1-b, looking for a easier printing in schools. Its design with references to the Olympics comprises a reduced format with thirty-two houses, including blocks of luck or setback, an arrival, and an exit. Thus, the dolls shown in figure 2, which can be printed in different colors, must move according to the player's performance when answering the questions, throwing the dice and his luck when drawing the lucky card or setback.



Figure 2. Dolls image.

The game is composed of three types of cards, which are the reward, punishment, and question cards, as shown in Figure 3, which comprise the Quiz format. The punishment or reward cards, called luck or setback, have their verses the same, making it impossible for the player to know what is written. Depending on the



player's luck when rolling the dice, if it falls into a lucky cubicle or a setback, the participant is obliged to remove a card from the pile, and this will imply its position on the board, advancing or returning spaces.



Figure 3. Image of the bad luck cards.

The question cards, illustrated in Figure 4 and composing a primordial part of the quiz, were based on seventy-two questions created around the history of athletics in the Olympic Games, including discursive and multiple-choice questions. The resolution for the questions is present on the back of each card, so who has the duty to read the question is the player to the right of the player in the round, who has the right to answer.

The development of the game takes place in the dynamics of answering the quiz correctly, so that all participants fix the content of the questions and are more interested in athletics and the Olympics. With the proposal of being a quick game, each game must have a maximum of 30 minutes, enough time for one of the players to reach the finish line with a good performance in the questions and in the throw of the dice. At the end of the game, it is intended that part of the questions have been addressed, and the rest can be discussed in a future game.



Figure 4. Image of question cards

## **6. Conclusion**

This work aimed to present a contextualization of the history of the Olympics, relating to the relevance of incorporating athletics in a more present way in physical education classes and the possibility of creating a greater link with the discipline of history through the use of games for learning the history of athletics. As we saw in the previous sections, throughout the history of sport and the trajectory of the editions of the Olympics, it is possible to see political and social changes of great significance for humanity, linking world history to the history of sport. For greater fixation of such themes, the use of games in the school environment is proposed, entering into discussion the effectiveness of educational games and the suggestion of expanding the use of boards in classes. Considering relevant doctrines on the subject, it is evident that games can represent learning, relaxation and motivation at different times, which highlight learning in a broader and more comprehensive way than the school environment allows.

We hope that this research can bring more attention to the athletics timeline and to the perspective of learning through games, showing the importance of educational games, which are the most attractive alternative for teaching the history of athletics in the Olympic context. Furthermore, it is hoped that the relevance of innovating classroom activities is verified, confronting the students' difficulty in concentrating. Difficulty that is visible even in the Physical Education subject, but because it is very practical, it is possible to explore the dynamics and advantages of using a board to reduce this impasse.

We believe that the alternative of using OlympiaQuiz for instructing students in a more practical way is the most appropriate way, by inserting game participants in an alternative environment capable of bringing students closer to the content covered during the game. In addition, the possibility of competition manages to arouse the interest of its players, stimulating competition between them, thus leading to a greater fixation on the history of the Olympic Games.

## **6. Acknowledgement**

The authors thanks Federal Institute of Rondônia-IFRO campus Calama for support.

## **7. References**

- SARIAN HAIGANUCH. Culto heróico, cerimônias fúnebres e a origem dos Jogos Olímpicos. *Clássica: Revista Brasileira de Estudos Clássicos*; 1997.
- TAROUCO L. M. R.; ROLAND L. C.; FABRE M. J. M.; KONRATH M. L. P. Jogos educacionais. *RENOTE - Revista Novas Tecnologias na Educação*; 2004.
- R SAVI; CG VON WANGENHEIM; V ULBRICHT; T VANZIN Proposta de um Modelo de Avaliação de Jogos Educacionais. *RENOTE - Revista Novas Tecnologias na Educação*; 2010.
- R SAVI, VR ULBRICHT. Jogos Digitais Educacionais: Benefícios E Desafios. *RENOTE - Revista Novas Tecnologias na Educação*; 2008.
- RAMOS D. K., LORENSET C. C., PETRI G. Jogos Educacionais: Contribuições Da Neurociência À Aprendizagem. *RENOTE - Revista Novas Tecnologias na Educação*; 2016.



PEREIRA, FRANCISCO SANDRO FORMIGA. O Uso De Jogos Educativos Como Aliado No Processo De Ensino Aprendizagem De Química. RPI - Revista de Pesquisa Interdisciplinar; 2016.

PAES V. R, JÚNIOR O. M. S. Relações Pedagógicas Entre Educação Física Escolar E Jogos Olímpicos. Revista Pensar a Prática; 2014.

TSUDA M.; SANCHES V. M.; FERREIRA T. G. F.; OTSUKA J. L.; BEDER D. M. Análise de métodos de avaliação de jogos educacionais. SBC – Proceedings of SBGames; 2014.

FALKEMBACH G. A. M.; O Lúdico E Os Jogos Educacionais. Centro Interdisciplinar de Novas Tecnologias na Educação.

ANDRIOLLI A. C.; Jogos De Tabuleiro Como Possibilidade Pedagógica Nas Aulas De Educação Física Escolar. Universidade Federal De Santa Catarina Centro De Desportos Departamento De Educação Física Curso De Licenciatura Em Educação Física; 2017.

MATTHIESEN S. Q.; GINCIENE G.; FREITAS F. P. R.; Registros da maratona em Jogos Olímpicos para a difusão em aulas de Educação Física. Revista brasileira Educação Física Esporte, São Paulo; 2012.

CARVALHO, JACQUELINE; Tecnologia Educacional Para O Ensino Do Atletismo: O Jogo De Mesa Como Um Recurso Didático-Pedagógico; 2013.

SILVA F. F.; Jogos De Tabuleiro E Capacidade De Concentração; 2009.

TAROUCO L. M. R.; ROLAND L. C.; FABRE M. J. M.; KONRATH M. L. P. A Gamificação Aplicada Em Ambientes De Aprendizagem |Fardo | Renote - Revista Novas Tecnologias na Educação; 2016.

TELES U. T.; VINHA M. A Contribuição Do Jogo Tradicional De Tabuleiro No Contexto Escolar. Horizontes - Revista de Educação; 2016.

SILVA N. M. A.; DIAS M. A. S.; O Uso Do Jogo De Tabuleiro Na Construção Da Aprendizagem Dos Conteúdos De Biologia: Uma Pesquisa Desenvolvida No âmbito Do PIBID/UEPB. Revista Brasileira de Ensino de Ciência e Tecnologia; 2020.

MADEIRA C.; SERRANO P.; Games E Gamificação Na Educação: Alternativas Para Aumentar O Sucesso Das Soluções. Revista Tecnologias na Educação; 2020.

GRESSE VON WANGENHEIM, Christiane et al. Desenvolvimento E Avaliação De Um Jogo De Tabuleiro Para Ensinar O Conceito De Algoritmos Na Educação Básica. Revista Brasileira de Informática na Educação – RBIE; 2019

FURTADO R. S.; PAES NETO G. P.; O Jogo Nas Aulas De Educação Física: Significados Atribuídos Pelas Crianças. Revista Entreideias; 2020.

LEAL, L. A. B.; Jogo E Educação. Revista Entreideias: Educação, Cultura e Sociedade; 2014.

PAES V. R; JUNIOR O. M. S.; Relações Pedagógicas Entre Educação Física Escolar E Jogos Olímpicos; 2014.

TESSEROLI A. G.; FÁVERO M. T. M.; Jogos De Tabuleiros: Construindo Perspectivas De Aprendizagens Através Das Tics - Cadernos PDE Volume 1; 2016

HINEBAUGH J. P.; Educação em Jogos de Tabuleiro - Livro; 2009.

DE OLIVEIRA E. A.; Uso De Narrativas Sobre Esportes No Ensino De História.Revista de Pesquisa Interdisciplinar; 2016.

WERBACH K. & HUNTER D. The gamification toolkit: dynamics, mechanics, and components for the win. 2012.

CARVALHO J.; Tecnologia Educacional Para O Ensino Do Atletismo: O Jogo De Mesa Como Um Recurso Didático-Pedagógico; 2013.

TEZANI T. C. R. O jogo e os processos de aprendizagem e desenvolvimento: aspectos cognitivos e afetivos. 2006.

DOMINGUES D. O sentido da gamificação. 2018.

KRUG. H. N. A Produção Acadêmica Sobre Educação Física Escolar: Uma Análise A Partir De Um Grupo De Pesquisa. 2019.

ESCOBAR D. M. Xadrez De Sociedade: Do Game À Gamificação. 2021.

### **Copyright Disclaimer**

Copyright for this article is retained by the author(s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).